

What is claimed is:

1. A resin material supply apparatus comprising;

5 a weighing unit which allows a predetermined amount of said resin material to be loaded into each of weighing pots arranged below via weighing means having a screw inserted in the weighing tube on the bottom of a hopper storing resin materials,

10 an agitating unit which permits agitation to be performed by the rotation of each of plungers with an agitating rod protruded from the tip via agitating means having said plungers inserted in multiple agitating cups where said resin materials are exchanged between said weighing pots and said multiple agitating cups arranged in parallel with said pots,

15 a traveling unit which allows said agitating unit to travel in the forward and backward direction in the space between said weighing unit and the molding die via traveling means provided with a pulley and belt mounted on the shaft of a motor capable of forward/reverse drive, and

20 a supply unit which permits the resin material in agitating cups to be extruded into the mold pot of the molding die by means of said plungers via vertical traveling means provided with a pulley and belt mounted on the shaft of a motor capable of forward/reverse drive.

2. A resin material supply apparatus according to Claim 1 further characterized in that;

25 said weighing means comprises a screw for forming a weighing unit, wherein said screw is mounted vertically inside the hopper to lead to the bottom end of the weighing tube on the bottom of the hopper and is connected to a weighing motor, and

a pot unit movable in the forward and reverse directions is provided on the bottom end of said weighing tube, wherein a weighing pot equipped with a shutter plate opened and closed by sliding on the underside is arranged.

5

3. A resin material supply apparatus according to Claim 1 further characterized by said agitating means, wherein

agitating cups are moved by the pulley and belt mounted on the shaft of the cup traveling motor to the bottom of said weighing pot moved by a weighing pot traveling cylinder so that said resin material is received;

said multiple agitating cups are moved to the bottom of said plunger mounted on the bottom linking plate installed on a guide post;

an agitating rod is protruded from the tip of said plunger by the action of an agitating cylinder mounted on the bottom linking plate; and

gears mounted on said plungers are meshed with each other by the action of the agitating motor with gears mounted on the shaft thereof so that said plungers are rotated,

thereby allowing said resin material inside the agitating cup to be agitated.

4. A resin material supply apparatus according to Claim 1 further characterized by said traveling means, wherein

a traveling motor is installed on the stay extending downwardly of multiple rails along which a running cart with said agitating unit mounted therein travels, and

said running cart engaged with the belt can be moved in the

forward and reverse directions in the space from said weighing unit to said molding die by the forward and reverse drive of said traveling motor via the pulley and belt mounted on the shaft of this motor.

5           5. A resin material supply apparatus according to Claim 1 further characterized by said vertical traveling means, wherein

ball screws are arranged in parallel with one another among said multiple guide posts installed on said agitating unit;

these ball screws are meshed with ball screw nuts;

10           said multiple plungers installed in a row on the bottom linking plate mounted on these screw nuts are moved downward via the pulley and belt mounted on the shaft of said vertical traveling motor; and

20           a shutter plate provided on the bottom surface of the agitating cup so as to be opened or closed through sliding is made to slide and open, whereby the molten resin material from the agitating cup is supplied to the mold pot of said molding die.

25           6. A resin material supply apparatus according to Claim 1 further characterized in that said resin material is powdery or granular.

30           7. A resin material supply method comprising;

a weighing step of weighing resin materials stored in a hopper and loading them into a weighing pot,

an agitating step of feeding said weighed resin materials into multiple agitating cups, and agitating and melting them via an agitating unit,

a traveling step of moving said agitating unit in the forward and

reverse directions in the space from the weighing pot area to the molding die, and

a supply step of extruding and supplying said resin materials molten in said agitating cup into the pot of said molding die;

- 5 wherein said resin material supply method is capable of weighing, agitating and molding a predetermined amount of resin materials even when these materials are powdery or granular.

20200914 10:43:11